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Color.—General greyish, or dusky brown, with no sign of reddish. Slightly lighter below, darker round the eyes.

The distribution of this new form is not at present known. Its presence in the Imienpo district so late in September, and the fact that the specimen described above was secured in the house of a Russian peasant, suggest that the species hibernates in this region.

Shanghai, China.

DISPOSITION AND INTELLIGENCE OF THE ORANG-UTAN

BY W. HENRY SHEAK

It is difficult to say which of the two great apes, the chimpanzee or the orang-utan, is the larger. I have spent many years studying living specimens in captivity and the mounted skins and skeletons in museums, but I am not yet convinced in favor of either. It is probable, however, that the chimpanzee will average slightly taller than his Bornean cousin, but there is scarcely any doubt but what the orang will average considerably the heavier of the two. He is much more robust in his build.

I have talked with a number of men who have hunted these two anthropoids, and I have read all the literature available, with a result similar to that from my own personal observations. Doctor Hornaday's largest male of the species *Pongo wurmbii* (if *wurmbii* be a distinct species) measured 4 ft., 6 in. in height. A male of *P. satyrus* measured 4 ft., $4\frac{1}{2}$ in., so that there is very little difference in size between these two. His largest female measured 4 ft. in height. Joseph S. Edwards, the well known exhibitor of rare animals, who has had extensive experience with the orang as well as with the chimpanzee, and who imported the first gorilla that ever reached the United States alive, tells me that his brother once sailed from Singapore with seventeen orangs and two of them were 5 ft. in height. According to Wallace, the stretch of arms of the largest orangs is 7 ft., 8 in. However it has been verbally stated to me that "Chief Utan," the great orang that lived in the Philadelphia zoölogical garden a few years ago and whose well-mounted skin now adorns the mammal hall in the Academy of Natural Sciences of Philadelphia, measured 8 ft., 4 in. from tip of fingers to tip of fingers over the outstretched arms. But I have not had the opportunity of verifying these figures. The weights of the largest adults range from 120 to 160 pounds.

In many of the anatomical characters, the orang-utan does not so much resemble man as does his African relatives of the genus *Pan*. He differs from the chimpanzee in twenty-three characters. In twenty of these the chimpanzee is more like man than the orang, while in but three is the orang more like man than the chimpanzee. These three characters are:

1st. The number of pairs of ribs and number of dorsal vertebræ, there being twelve in the orang, as in man, while in the chimpanzee and gorilla there are thirteen.

2nd. The absence of superciliary crests—prominent bony ridges protruding out over the eyes, which so disfigure the face of the gorilla and are well marked in the chimpanzee.

3rd. The form of the cerebral hemispheres. In the orang they are much more like those of man, than are those of the chimpanzee. The orang has a straight full forehead, while the forehead of the chimpanzee is considerably receding.

In disposition the orang-utan is much quieter and less obtrusive than the chimpanzee. Doctor Hornaday tells me that while he was in their native forests and jungles, he never saw one on the ground, unless he had been wounded or driven down by man. Even when thirsty he does not come to the ground to drink, but climbs out on the limb of a tree overhanging a stream or pool, until his weight bends the branch down so that he may reach the water. In captivity this great ape is much inclined to sit in a corner of his cage, motionless and voiceless. But when captured young he takes fairly well to captivity, becomes friendly and attached to those who feed and care for him, and seems to enjoy human society.

About fifteen years ago I was traveling with the Gus Lambrigger Animal Show as naturalist and lecturer. At the time of which I speak, we had a young orang which had come to us only about three weeks earlier. One afternoon, having finished a lecture, I sat down in a chair with my back to the stage or platform on which the small portable cages were arranged. I was some little distance from the orang's cage. But presently I felt two long hairy arms encircle my neck and a strawberry-blond youngster climbed down into my lap and proceeded to make himself very much at home. He had himself opened his cage door and walked along the stage in front of the other cages until he could climb over on my back.

I have seen the orangs in the New York Zoölogical Park follow their keeper about on the lawn, and when he would attempt to run away from

them, they would hurry after him, using their long arms as a man would use a pair of crutches, but often putting their heads to the ground and turning a somersault in their efforts to overtake their human friend. I have also seen them sit at table and use knife, fork, and spoon in eating, and drink out of an opaque bottle, looking repeatedly down the neck to see how much of the delectable fluid might be left.

A two-year old baby orang which the Edwards Brothers had on exhibition in New York City in 1908, was very timid and much afraid of our large chimpanzee. The chimpanzee liked to tease the little fellow, because she saw he was afraid of her. When she would stamp her foot and threaten him, he would run to me and throw his arms about my neck, plainly imploring my protection from the great black, ugly beast, which he doubtless thought her to be.

Though the orang may sit quietly in a corner of his cage, his beautiful brown eyes see everything about him. Indeed I have found him a very keen observer. One day I was standing in front of the cage of the orang with the Lambrigger Zoo, already referred to, when he came over near me, put his arm out between the bars, and went to examining something on my shoulder. On investigation I found there was a tiny knot, not larger than the head of a small pin, in the thread of the seam in my coat. I had not noticed it previously, but his eyes had caught it from the back of the cage and he was trying to get it.

The orang-utan does not laugh aloud as often as the chimpanzee, but he has a smile that is strikingly human-like. When two young orangs are kept together, they become quite playful, romp and chase each other about, but in a more sedate and deliberate way, and not with the frantic haste and daring so characteristic of the chimpanzee. When thus engaged at play there is often a pronounced and joyous smile on their beaming faces. Now and then there may be a low chuckle, but not often.

As already noted, they often become much attached to their keeper. They are also devoted to their own kind, and will often fight for each other, and especially their young. They will sometimes make pets of other animals, as cats, dogs, and rabbits. I once knew an orang that became much attached to a young pig-tail monkey. They spent much time together, the pig-tail usually sleeping in the ape's arms. The orang was very affectionate, often fondling and caressing his little pet, and showing great patience, for the pig-tail was quarrelsome and vindictive, and often resented the familiarity of his fond foster father.

While the orang-utan is quiet and unobtrusive, and not as good an animal for exhibition purposes as the chimpanzee, I believe him to be almost, if not altogether, as intelligent. He is not always inventing countless new ways of amusing himself and working off a superabundant store of physical and mental energy, as does his African cousin, but when it comes to solving problems to satisfy his own needs or desires, and to doing things that are really worthwhile, he manifests wonderful intellectual power.

A few years ago the Edwards Brothers owned a large orang-utan which they called Joe. He was remarkably intelligent and learned the meaning of about seventy words and expressions. He knew all the coins from the silver dollar down to the copper cent, and would invariably pick out the one asked for. One day the janitor made a mistake in filling a lamp, using gasoline instead of coal oil. When lighted, the lamp, which was directly in front of Joe's cage, took fire all over and exploded, burning Joe severely. After that he was always afraid of a lamp. If he wanted anything, he gave a peculiar call, and then when one of the proprietors or one of his keepers came to the cage, he gave him a push to send him off in the direction of the object desired. One night he had thus called up Solomon Edwards, father of the two Edwards brothers. He kept sending Mr. Edwards off to the back of the room, but nothing the old gentleman brought seemed to satisfy him. Now it chanced there was a lantern, belonging to the watchman, which was hanging in the back of the room, invisible to Mr. Edwards, but where Joe could see it from his cage, and this lantern having been turned too high, was blazing up and smoking. When Mr. Edwards discovered it and turned down the wick, the orang was satisfied. It was plain that he recognized the flame was blazing too high and that he feared another explosion.

On another occasion Joe exhibited what is, to my mind, one of the keenest and most complicated mental processes ever displayed by an animal. On the day in question, there chanced to be an English walnut lying near the cage, but just beyond his reach. He made several ineffectual attempts to secure it by stretching out his long arms. Then he tried to twist some of the straw on the floor of his cage into a rope or wand, but the straw was too brittle and too much broken. It is no uncommon thing for the apes, and even some of the lower monkeys, and especially the spider monkeys, to twist straw into a rope or wand to serve some of their needs. At length the orang began to take off his "sweater," a knit woolen jacket which he was wearing. We wondered

why he was doing this, as he was not in the habit of taking off his clothes without permission. With the slow and deliberate movements so characteristic of this ape, he carefully removed the garment, poked it through the bars of the cage, swung it out till it dropped over the walnut, rolled the nut to within reach, secured it with his hand, then after he had cracked the shell with his teeth and eaten the kernel, he just as deliberately and carefully put the sweater on again.

Joe did not like to take medicine. Mr. Joseph Edwards tried to give him some pills by putting them into the tip end of a banana. But he discovered them in his mouth and picked them out. He looked at the pills, and then he looked at Mr. Edwards, with an expression of reproach and incredulity upon his face, as if he could not believe that his loving master could serve him such a scurvy trick. For a considerable time after that, whenever he was given a banana, he broke off the tip and threw it away or gave it to one of the little monkeys. In his final sickness he was treated by a skilled physician. It was necessary to give him an injection. On the third visit he amazed the man of medicine by getting ready for the treatment just as soon as he saw the syringe. The doctor declared that this was more than he could expect from his human patients.

I have seen the white-handed gibbon (*Hylobates lar*) run and deliberately walk, on the posterior limbs, and as perfectly upright as man. This without any teaching. But aside from the gibbons, the apes rarely do this. When on the ground they swing themselves along by putting down the knuckles and using the long arms as a pair of crutches. However, a big male orang-utan that died in the Philadelphia zoölogical garden in the fall of 1918, was in the habit of doing so. On several occasions I saw him walk about his cage, without using his arms, either on the floor or by holding to a support, and as perfectly erect as a man. Keeper McCrossen declared he had not been taught. This is very difficult for the orang to do, on account of the very imperfect sigmoid flexure of the spinal column.

Philadelphia, Pa.